

**Remarks**

The Official Action dated June 28, 2005 and the Advisory Action dated October 12, 2005 have been carefully considered. Consideration of the remarks presented herein and reconsideration of the rejections are respectfully requested.

Claims 1-31 remain in the present application. The Office Action cites to Carrigan, III as being US Patent 6,546,177. However, this reference was not cited in Applicants' information disclosure statement or on the PTO-Form 892 that accompanied the current or previous Office Action, and it appears from the office action that this citation is referring to US Patent 6,565,177 issued to Corrigan, III (which appears to be related to the Corrigan reference already cited by Applicants). If this assumption is not correct, Applicants request that they be informed. Applicants also request that an additional form PTO-892 be provided by the Patent Office indicating that this reference was considered. (Alternatively, an Information Disclosure Statement and PTO Form 1449 are being submitted herewith, for the examiner's initials and confirmation that this reference was considered.)

*Claim Rejections*

In the Office Action, claims 1, 10, 14, 16, 25 and 29-31 were rejected under the argument that they are unpatentable over Corrigan in view of Conta (US 6,371,589), and in view of the newly cited Ishinaga reference (US 2002/0149657). In addition, dependent claims 2-9, 11-13, 15, 17-24, and 26-28 were rejected under the argument that they are unpatentable over Corrigan in view of Conta and Ishinaga as applied to independent claims 1 and 16, and further in view of Tanaka et al. (US 2002/0060333), Aswell (US 2001/0050410), and the Stanley Wolf reference.

Applicants respectfully traverse the rejections. A §103 rejection is not proper unless the combination of references, even assuming arguendo that they could be combined in the manner claimed, teaches or suggests all of the claim elements. MPEP § 2143. In the present

case, not all elements of the claims are shown by the cited references, even when considered in the argued combination.

Applicants appreciate the acknowledgement in the office action that Corrigan fails to teach sense resistors implanted in the silicon substrate. Conta likewise does not show this feature and is not cited in the Office Action for making up for the deficiency of Corrigan. However, the Office Action cites to a new reference, Ishinaga, under the argument that it teaches diodes 622 and 623 embedded in a silicon substrate. Applicants do not agree with this argument. Applicants found no indication in the Ishinaga reference that the diodes are implanted into the substrate. The reference has very little discussion of these diodes. The discussion that is present in paragraph 176 provides no indication that the diodes are formed by implantation. FIG. 22 of Ishinaga which is cited in the office action likewise does not indicate how these diodes might be formed. It is very possible that they are formed by techniques other than implantation. A §103 rejection is not proper unless the combination of references, even assuming arguendo that they could be combined in the manner claimed, teaches or suggests all of the claim elements. MPEP § 2143. In this case, Applicants found no teaching or suggestion in the references of implantation, for example.

Moreover, Applicants do not find that this discussion of diodes in the Ishinaga reference would provide any teaching or suggestion for forming temperature sense resistors by implantation. In fact, at paragraph 75 of the Ishinaga reference, it is specifically stated that "the temperature sensor 2 is formed adjacent to the ejection heater portion 3 by the same film deposition process that is used when the ejection heater portion 3 is formed." Accordingly, the reference, by teaching use of a film deposition process for formation of the temperature sensor, actually appears to teach away from implantation of temperature sense resistors, in contrast to independent claims 1 and 16. An important indicium of

nonobviousness is when prior art teaches away from the claimed invention. *In re Gurley*, 27 F.3d 551, 553, 31 U.S.P.Q.2D 1130, 1132 (Fed. Cir. 1994).

In addition, in contrast to claim 1, Applicants found no teaching or suggestion in the Conta, Corrigan, or Ishinaga references that atoms of an implantation material are directed toward the substrate and beneath the surface. In fact, Applicants found no teaching in any of the three references of atoms or implantation. Again, a §103 rejection is not proper unless the combination of references, even assuming arguendo that they could be combined in the manner claimed, teaches or suggests all of the claim elements. MPEP § 2143

Applicants also did not find these features to be in the other references cited in the rejections, nor were those references cited for that purpose. Furthermore, even if prior art could be combined to result in a claimed invention, the combination would not render a claim obvious unless the prior art suggests the desirability of the combination. *In re Mills*, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). In this case, there is no showing of a motivation or suggestion for making the argued combination of references. Even if prior art were capable of being combined or modified to operate as in the claimed invention, there must be some suggestion or motivation in the references to combine them to arrive at the subject matter of the claims. MPEP § 2143.01.

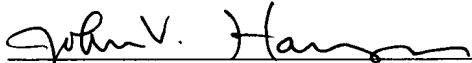
#### *Response to Advisory Action*

In the Advisory Action, it was indicated that the claims do not overcome the prior art. However, Applicants respectfully submit that, as indicated above, not all elements of the claims are shown by the cited references, even when considered in the argued combination. In particular, as indicated in the Office Action, Corrigan fails to teach sense resistors implanted in the silicon substrate. The second reference, Conta, is not cited in the Office

Action for this purpose. The third reference, the Ishinaga reference, actually discloses formation of the temperature sensor by a film deposition process, not by implantation, in contrast to claims 1 and 16. Moreover, with respect to claim 1, Applicants found no teaching or suggestion in these three references that atoms of an implantation material are directed toward the substrate and beneath the surface, and in fact Applicants found no disclosure in any of these references of atoms or implantation. A § 103 rejection is not proper unless the combination of references, even assuming arguendo that they could be combined in the manner claimed, teaches or suggests all of the claim elements. MPEP § 2143. For at least these reasons, it is requested that the rejections be reconsidered and withdrawn.

It is believed that the above represents a complete response to the rejections and that the present application is in condition for allowance. Reconsideration and an early allowance are requested.

Respectfully submitted,

  
John V. Harmeyer (Reg. No. 41,815)  
DINSMORE & SHOHL LLP  
1900 Chemed Center  
255 East Fifth Street  
Cincinnati, Ohio 45202  
(513) 977-8649

1211469v1